

WHAT IS CLAIMED IS:

1. A locking element for a single use syringe, comprising:
a base including a generally trough-shaped body having a longitudinal axis;
a first leg extending from said base substantially parallel to said longitudinal
5 axis;
a second leg extending from said base substantially parallel to said
longitudinal axis, said second leg being in opposing relation to said first leg;
a first barb extending from said first leg;
a second barb extending from said second leg;
10 said first leg including a first end portion extending generally towards said
longitudinal axis;
said second leg including a second end portion extending generally towards
said longitudinal axis, and
a spring element for urging said barbs in a selected direction, said spring
15 element attached to said base.
2. A locking element as described in claim 1 wherein said base, legs and
spring element are of integral construction and formed from a substantially flat,
integral sheet of metal.
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3. A locking element as described in claim 1 wherein each of said first
and second legs include an inner edge and an outer edge, said first and second barbs
extending, respectively, from said outer edges of said first and second legs.
- 25 4. A locking element as described in claim 3 wherein said spring element
includes a third leg extending between said first and second legs and adjacent to said
inner edges thereof.
- 30 5. A locking element as described in claim 4 wherein said third leg is
pivotably attached to said base.

6. A locking element as described in claim 5 wherein said third leg has a bend therein.

7. A single use syringe assembly comprising:

5 a barrel having an inside surface defining a chamber for retaining fluid, and open proximal end and a distal end having a passageway in communication with said chamber;

10 a plunger rod assembly including an elongate body portion having a proximal end, a distal end, and a stopper mounted to said elongate body portion proximate said distal end, said stopper being slidably positioned in substantially fluid tight engagement with said inside surface of said barrel, said elongate body portion extending outwardly from said open proximal end of said barrel; and

15 a generally trough-shaped locking element positioned within said barrel, said locking element defining a channel, said elongate body portion of said plunger rod assembly extending through said channel;

one or more barbs extending from said locking element, said one or more barbs engaging said inside surface of said barrel for substantially preventing said locking element from moving proximally with respect to said barrel but allowing movement of said locking element towards said distal end;

20 said locking element engaging said elongate body portion of said plunger rod assembly such that said locking element is movable towards said distal end of said barrel as said plunger rod assembly is advanced, and

a spring member attached to said locking element and urging said one or more barbs towards said inside surface of said barrel.

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8. A single use syringe assembly as described in claim 7 wherein said locking element includes first and second edges, said one or more barbs extending from said edges, and said spring member being integral with said locking element.

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9. A single use syringe assembly as described in claim 8 wherein said elongate body portion of said plunger rod assembly includes first and second adjoining portions, said first portion being distal of said second portion and having a

smaller diameter than said second portion, a first shoulder separating said first and second portions, and a stop surface at the distal end of said first portion, said locking element having a distal end engageable with said stop surface and a proximal end engageable with said first shoulder.

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10. A single use syringe assembly as described in claim 9 wherein said locking element includes a base and first and second legs extending from said base, said first and second legs being in substantially opposing relation and having end portions engageable with said elongate body portion of said plunger rod, said spring member comprising a third leg extending from said base between said first and second legs.

11. A single use syringe assembly as described in claim 10 wherein said first and second legs include inner edges adjoining said third leg and outer edges, said outer edges of said first and second legs including one or more barbs.

12. A single use syringe assembly comprising:
a barrel having an inside surface defining a chamber for retaining fluid;
a plunger rod assembly including an elongate body portion having a proximal end, a distal end and a stopper mounted to said elongate body portion, said stopper being slidably positioned in substantially fluid tight engagement with said inside surface of said barrel, said elongate body portion extending outwardly from said barrel;

a locking element positioned within said barrel, said locking element including a base including first and second opposing walls and a third wall connecting said first and second walls, a first leg extending proximally from said first wall, a second leg extending proximally from said second wall, said first and second legs being in opposing relation, a first barb extending from said first leg and engaging said inside surface of said barrel, a second barb extending from said second leg and engaging said inside surface of said barrel, said first leg including a first end portion engageable with said elongate body portion of said plunger rod assembly, said second leg including a second end portion engageable with said elongate body portion of said

plunger rod assembly, said first and second barbs being positioned to substantially prevent said locking element from moving proximally in said barrel, but allowing said locking element to move distally within said barrel.

5 13. A single use syringe as described in claim 12 including means for resiliently urging said first and second barbs towards said inside surface of said barrel.

10 14. A single use syringe as described in claim 13 wherein said means for resiliently urging including a third leg extending proximally from said third wall of said base, each of said first and second legs includes a substantially flat body having an inner edge substantially adjacent to said third leg and an outer edge, said first and second barbs extending, respectively, from said outer edges of said first and second legs.

15 15. A single use syringe as described in claim 14 wherein said locking element has a generally trough-shaped configuration.

20 16. A single use syringe as described in claim 15 wherein said elongate body portion of said plunger rod assembly includes first and second adjoining portions, said first portion being distal of said second portion and having a smaller diameter than said second portion, a first shoulder separating said first and second portions, and a stop surface at the distal end of said first portion, said first and second inwardly extending end portion of said first and second legs being engageable with said first shoulder, said locking element being engageable with said stop surface.

25 17. A single use syringe as described in claim 16 wherein said elongate body portion of said plunger rod assembly includes a second shoulder proximal of said first shoulder, said end portions of said first and second legs being engageable with said second shoulder.

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18. A single use syringe as described in claim 17 wherein the distance between said first shoulder and said stop surface is substantially the same as the length of said locking element.

5 19. A single use syringe as described in claim 18 wherein said locking element is formed from a substantially flat, integral sheet of metal.

20. A single use syringe as described in claim 12 wherein said locking element is formed from a substantially flat, integral sheet of metal.

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21. A single use syringe as described in claim 20 including a spring member extending proximally from said base and urging said barbs towards said inside surface of said barrel, wherein each of said first and second legs includes a substantially flat body having inner and outer edges, said first and second barbs
15 extending, respectively, from said outer edges of said first and second legs, said inner edges of said first and second legs being adjacent to said spring member.

22. A single use syringe as described in claim 21 wherein said locking element has a generally trough-shaped configuration.

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23. A single use syringe as described in claim 21 wherein said spring member includes a third leg extending proximally from said third wall of said base, said third leg including a bend therein.